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July 23, 2003

Secretary, Federal Trade Commission
Room H-159, 600 Pennsylvania Ave.
N.W. Washington,D.C. 20580

Re:16 CFR Part 460-Labelling and Advertising of Home Insulation comments

Dear Secretary,

This is not going to be a lengthy rebuttal. In fact, I want to congratulate your staff on sifting through all the political garbage and arriving at a proposed document I find to be extremely fair. Obviously, I can only speak about the document as it relates to my reflective products.

I have enclosed copies of the pages that I made notes on and I have a few other suggestions that may help:

1. All references to ASTM E408 should probably be dropped and only the use of C 1371 referenced. E-408 is still in print but not in use to my knowledge.
2. Something you might want to consider is the use of a footnote, when referencing any dated standard, such as C 1224-99 because the date may change annually, based on any changes to the document. The footnote might read: "The reference to this document assumes the use of the most current approved addition of the document listed" This may be too long but I think you understand my meaning. An example would be your reference to C 1224-99, which is now C 1224-01 and may soon be C 1224-03.
3. You have made reference to E 408 being the test method for R-value at the bottom of page 41873. That is incorrect; E 408 (now C 1371) is a test for surface emittance, not R-value. C 1224, on the other hand, is the criteria that all reflective insulations must meet. It includes the proper test method protocol for R-value testing, in a guarded hot box.

I really do not have anything further to offer, except my assistance, should you ever desire it.

Respectfully,

Roy N. Akers

Roy N. Akers, CEO
Advanced Foil Systems, Inc.

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consumers to evaluate how well ...cular insulation product is likely ...form, to determine whether the ...the insulation is justified, and to ...meaningful, cost-benefit based ...sing decisions among competing ...cts.

...erview of the Rule

...roducts Covered

...e R-value Rule covers all "home ...ulation products." Under the Rule, ...ulation" is any product mainly used ...low down the flow of heat from a ...mer area to a cooler area, for ...mple, from the heated inside of a ...se to the outside during the winter ...ugh exterior walls, attic, floors over ...wl spaces, or basement. "Home ...ulation" includes insulation used in ... types of residential structures. The ...le automatically covers new types or ...rms of insulation marketed for use in ...e residential market, whether or not ...e Rule specifically refers to them. The Rule does not cover pipe insulation, or any type of duct insulation except for duct wrap. The Rule does not cover insulation products sold for use in commercial (including industrial) buildings. It does not apply to other products with insulating characteristics, such as storm windows or storm doors.

Home insulation includes two basic categories: "mass" insulations and "reflective" insulations. Mass insulations reduce heat transfer by conduction (through the insulation's mass), convection (by air movement within and through the air spaces inside the insulation's mass), and radiation. Reflective insulations (primarily aluminum foil) reduce heat transfer when installed facing an airspace by increasing the thermal resistance of the airspace by reducing heat transfer by radiation through it. Within these basic categories, home insulation is sold in various types ("type" refers to the material from which the insulation is made, *e.g.*, fiberglass, cellulose, polyurethane, aluminum foil) and forms ("form" refers to the physical form of the product, *e.g.*, batt, dry-applied loose-fill, spray-applied, boardstock, multi-sheet reflective).

B. Parties Covered

The Rule applies to home insulation manufacturers, professional installers, retailers who sell insulation to consumers for do-it-yourself installation, and new home sellers (including sellers of manufactured housing). It also applies to testing laboratories that conduct R-value tests for home insulation manufacturers or other sellers who use the test results as the basis for making R-value claims about home insulation products.

C. Basis for the Rule

The Commission issued the R-value Rule to prohibit, on an industry-wide basis, specific unfair or deceptive acts or practices. When it issued the Rule, the Commission found that the following acts or practices were prevalent in the home insulation industry and were deceptive or unfair, in violation of section 5 of the FTC Act, 15 U.S.C. 45: (1) sellers had failed to disclose R-value, and caused substantial consumer injury by impeding the ability of consumers to make informed purchasing decisions; (2) the failure to disclose R-values, which varied significantly among competing home insulation products of the same thickness and price, misled consumers when they bought insulation on the basis of price or thickness alone, (3) sellers had exaggerated R-values, often failing to take into account factors (*e.g.*, aging, settling) known to reduce thermal performance; (4) sellers had failed to inform consumers about the meaning and importance of R-value; (5) sellers had exaggerated the amount of savings on fuel bills that consumers could expect, and often failed to disclose that savings will vary depending on the consumer's particular circumstances; and (6) sellers had falsely claimed that consumers would qualify for tax credits through the purchase of home insulation, or that products had been "certified" or "favored" by federal agencies. 44 FR at 50222–24.

D. Requirements of the Rule

The Rule requires that manufacturers and others who sell home insulation determine and disclose each product's R-value and related information (*e.g.*, thickness, coverage area per package) on package labels and manufacturers' fact sheets. R-value ratings vary among different types and forms of home insulations and among products of the same type and form. The Rule requires that R-value claims to consumers about specific home insulation products be based on uniform R-value test procedures that measure thermal performance under "steady-state" (*i.e.*, static) conditions.[3] Mass insulation products may be tested under any of the test methods. The tests on mass insulation products must be conducted on the insulation material alone (excluding any airspace). Reflective insulation products must be tested according to either ASTM C 236–89 (1993) or ASTM C 976–90, which can determine the R-values of insulation systems (such as those that include one or more air spaces).[4] The tests must be conducted at a mean temperature of 75° F.

When it promulgated the Rule, the Commission found that certain factors, such as aging or settling, affect the thermal performance of home insulation products. 44 FR at 50219–20, 50227–28. To ensure that R-value claims take these factors into account, the Rule mandates that the required R-value tests for polyurethane, polyisocyanurate, and extruded polystyrene insulation products be conducted on test specimens that fully reflect the effect of aging, and for loose-fill insulation products on test specimens that fully reflect the effect of settling.

Specific disclosures must be made: (1) by manufacturers on product labels and manufacturers' fact sheets; (2) by professional installers and new home sellers on receipts or contracts; and (3) by manufacturers, professional

concerning warranties; the Commission's Guides for the Use of Environmental Marketing Claims, 16 CFR Part 260, address the application of section 5 of the FTC Act, 15 U.S.C. 45, to environmental advertising and marketing claims (*e.g.*, claims concerning the amount of recycled material a product contains). Further, section 5 of the FTC Act declares that unfair or deceptive acts or practices are unlawful, and requires that advertisers and other sellers have a reasonable basis for advertising and other promotional claims before they are disseminated. *See Deception Policy Statement*, Letter from the Commission to the Honorable John D. Dingell, Chairman, Committee on Energy and Commerce, U.S. House of Representatives (Oct. 14, 1983), *reprinted in Cliffdale Assocs., Inc.*, 103 F.T.C. 110 (1984); *Statement of Policy on the Scope of the Consumer Unfairness Jurisdiction*, Letter from the Commission to the Honorable Wendell H. Ford, Chairman, Consumer Subcommittee, Committee on Commerce, Science, and Transportation, U.S. House of Representatives, and the Honorable John C. Danforth, Ranking Minority Member, Consumer Subcommittee, Committee on Commerce, Science and Transportation, U.S. Senate (Dec. 17, 1980), *reprinted in International Harvester Co.*, 104 F.T.C. 949 (1984); and *Policy Statement Regarding Advertising Substantiation*, 49 FR 30999 (1984), *reprinted in Thompson Medical Co.*, 104 F.T.C. 839 (1984).

[3] Section 460.5 of the Rule requires that the R-values of home insulation products be based on one of the test procedures specified in the Rule. Most of the test procedures in the Rule specify American Society for Testing and Materials (ASTM) standards. ASTM reviews and revises each of these procedures periodically. Under section 460.7 of the Rule, the Commission will accept, but not require, the use of a revised version of any of these standards 90 days after ASTM adopts and publishes the revision. The Commission may, however, reopen the rulemaking proceeding during the 90-day period or at any later time to consider whether it should require use of the revised procedure or reject it under section 460.5 of the Rule. 61 FR at 13663.

[4] The R-value of a single-sheet reflective insulation product must be tested under ASTM C1224 ~~E408~~ or another test method that provides comparable results.

...se fill insulation and insert ...age indicating that industry ...bers must take into account the ...ts of settling on the product's R- ...e for spray-applied cellulose and ...lized cellulose [see section V.C.2. of ... document].

...ction 460.5(a)(4) (R-value Tests)

Test for Spray-Applied Cellulose ...sulation: The Commission proposes to ...d a new paragraph, section 460.5(a)(4), which would require that tests for self-supported spray-applied cellulose be conducted at the settled density determined pursuant to ASTM C 1149–97 ("Self-supported Spray Applied Cellulosic Thermal Insulation") [*see* section V.C.2. of this document].

Section 460.5(a)(5) (R-value Tests)

Loose-Fill Initial Installed Thickness: For loose-fill insulations, the proposed amendment would require that manufacturers determine initial installed thickness for their product pursuant to ASTM C 1374, "Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation," for R-values of 11, 13, 19, 22, 24, 32, and 40 and any other R-values provided on the product's label pursuant to § 460.12 [*see* section V.E.1.c.ii. of this document].

Section 460.5(b) and Section 460.5(c) (R-value Tests)

These sections applicable to aluminum foil systems would be reorganized and amended as follows:

Tests for Single Sheet Aluminum Foil Systems: Section 460.5(c) would be redesignated as Section 460.5(b) and would be amended to require that single sheet systems of aluminum foil be tested under ASTM C 1371–98 [*see* section V.D.5.a. of this document].

Test for Multiple Sheet Aluminum Foil Systems: Section 460.5(b) would be moved to Section 460.5(c) and would be amended to indicate that aluminum foil systems with more than one sheet, and single sheet systems of aluminum foil that are intended for applications that do not meet the conditions specified in the tables in the most recent edition of the ASHRAE Handbook, must be tested with ASTM C 1363–97, "Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus," in a test panel constructed according to ASTM C 1224–99, "Standard Specification for Reflective Insulation for Building Applications," and under the test conditions specified in ASTM C 1224–99. To get the R-value from the results of those tests, use the formula specified in ASTM C 1224–99. The tests must be done at a mean temperature of 75° F, with a temperature differential of 30° F. This amendment would eliminate the references to ASTM C 236–89 and ASTM C 976–90 that are currently applicable to these products [*see* section V.D.5.a. of this document].

Section 460.5(d) (R-value Tests)

Insulation Material With Foil Facings and Air Space: Section 460.5(d)(1) would be amended to eliminate reference to ASTM C 236–89 and ASTM C 976–90 and replace them with ASTM C 1363–97, "Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus" [*see* section V.D.5.a. of this document].

Section 460.5(e) (R-value Tests)

Incorporation by Reference: A new paragraph (e) would be added to consolidate information regarding incorporation by reference approvals provided by the Office of the **Federal Register** [*see* section V.E. of this document].

Section 460.8

R-Value Tolerances for Manufacturers: The Rule's tolerance provision would be amended to clarify that, if you are a manufacturer of home insulation, the mean R-value of sampled specimens of a production lot of insulation you sell must meet or exceed the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation. The Rule also would prohibit an individual specimen of that insulation from having an R-value more than 10% below the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation [*see* section V.D.3. of this document].

Section 460.12 (Labels)

Labels for Batts and Blankets: The Commission proposes to amend the paragraph at § 460.12(b)(1) to indicate the requirement applies to batts and blankets of any type, not just to those made of mineral fiber [*see* section V.E.1.b. of this document].

Loose-Fill Labels: The Commission also proposes to amend section 460.12 to eliminate certain information requirements on charts for loose-fill cellulose insulation. The proposed amendment would instead require charts for all forms of loose-fill insulation to show the minimum thickness, maximum net coverage area, number of bags per 1,000 square feet, and minimum weight per square foot at R-values of 11, 13, 19, 22, 24, 32, and 40. The amendment also would require the labels for loose-fill insulation to display initial installed thickness information determined pursuant to ASTM C 1374, "Standard Test Method for Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation" and the blowing machine specifications that installers must use for loose-fill products [*see* section V.E.1.c. of this document].

Section 460.13 (Fact Sheets)

Urea-based Foam Insulation: The Commission proposes to eliminate the requirements in paragraph (d) of this section related to urea-based foam insulation [*see* section V.E.1.d. of this document].

Section 460.14 (How retailers must handle fact sheets)

Retailers Responsibilities for Fact Sheets: The Commission proposes to amend this section to exempt retailers from making fact sheets available to customers, if they display insulation packages (containing the same information required in fact sheets) on the sales floor where insulation customers are likely to notice them [*see* section V.E.4. of this document].

Section 460.18 (Insulation ads) and 460.19 (Savings Claims)

Affirmative Disclosures for Radio Ads: The Commission proposes to eliminate the affirmative disclosure requirements for radio ads in sections 460.18 and 460.19 [*see* section V.E.2.b. of this document].

Advertising for Urea-based Foam Insulation: The Commission proposes to amend this section to eliminate paragraph (e) in section 460.18, which addresses urea-based foam insulation [*see* section V.E.1.d. of this document].

Section 460.23(a) (Other Laws, rules, and orders)

The Commission plans to amend paragraph (a) to correct a typographical error.

V. Discussion of Comments and Proposed Amendments

The Commission received 21 comments in response to the ANPR.[8]

[8] Adrian D. Troutman, Jr. for TFoil Enterprises ("TFoil"), (Comment #1); Adrian D. Troutman, Jr. for A&J Insulation Construction ("A&J"), (2); The Polyisocyanurate Insulation Manufacturers Association ("PIMA"), (3); The Cellulose Insulation Manufacturers Association ("CIMA"), (4); The Insulation Contractors Association of America ("ICAA"), (5); The Expanded Polystyrene Molders Association ("EPSMA"), (6); Celotex Corporation ("Celotex"), (7); The Foamed Polystyrene Alliance ("FPSA"), (8); The North American Insulation Manufacturers Association ("NAIMA") (9); Elastizell Corporation of America ("Elastizell"), (10); Uniwood/Fome-Cor Business Unit of

Continued

Most of these came from industry members, trade associations or consultants, with three comments from federal governmental agencies (one from the Department of Energy and two from its contractor, Oak Ridge National Laboratory).

A. Disclosing Thermal Performance of Additional Products

1. Residential Pipe and Duct Insulations

Background

In the ANPR, the Commission asked whether it should amend the Rule to cover residential pipe and duct insulations. Currently, the Rule does not cover these types of insulations, but does cover duct wrap. *See* section 460.2. The Commission stated that unless interested parties have information that sellers are misrepresenting the thermal performance of these products to consumers, it would not propose extending the Rule to cover them.

Comments

DOE stated that flexible duct, which includes an integral insulation jacket and does not require a separate duct wrap, has become much more common in residential applications since the Rule's inception. DOE maintained that this type of duct is often marked with an "Average R-value" rating, although, according to DOE, the basis for this rating is unclear. DOE also pointed out that the Council of American Building Officials ("CABO") Model Energy Code ("MEC") and many state codes require an R-value rating for duct insulation. DOE concluded that, although there may be no evidence that the R-value of duct insulation is being misrepresented, consumers and inspectors nevertheless need these R-values to be stated in a uniform manner. DOE acknowledged that it is unclear how the R-value on duct insulation (duct wrap *or* flex duct) should actually be reported to the consumer.[9]

NAIMA supported revising the Rule to cover the newer forms of duct insulation that are now sold to consumers in retail stores and building supply outlets. It contended that duct insulations—rigid air ducts, flexible air ducts, and radiant "bubble packs"—are promoted through use of R-value claims and that requiring these products to comply with the Rule may be achieved with little additional burden upon the Commission. NAIMA recommended that the Commission require testing of duct insulations, including radiant "bubble packs," under ASTM C 1363 because it would benefit retail consumers. If all claims were judged by the same method, consumers would have greater confidence in R-value performance and protection against fraudulent claims.[10]

NAIMA agreed that the Commission should not apply the Rule to *pipe* insulations because: (1) pipe products are not readily available at retail stores, so consumers do not require protection; (2) the nature of pipe insulation makes required disclosures of R-value difficult—for example, R-values for pipe insulations vary with every gradation of pipe size; (3) the assignment of pipe R-values is based on technical principles so complex and complicated that the average consumer could not begin to comprehend the nuances differentiating the R-value of one pipe insulation from another; and, (4) pipe insulation is not marketed in terms of thermal performance. NAIMA maintained, moreover, that it was not aware of any misrepresentations of R-values for pipe insulation in the marketplace.[11] Without elaboration, Elastizell opposed any change to the Rule in this regard.[12]

Discussion

As explained in the ANPR, the Commission excluded pipe insulation from the original Rule's coverage based on uncontroverted evidence that it was used primarily to prevent moisture condensation on low temperature pipes, rather than energy conservation; that R-value was not a reliable basis for comparing the performance of pipe insulations; and that pipe insulations were not commonly advertised in terms of energy-savings potential. Similarly, it excluded duct insulations other than duct wrap because only duct wrap was used extensively in the residential setting. The Commission explained that, since the original proceeding, the staff had reviewed consumer advertising for these products and found no information to indicate that these facts have changed. The Commission concluded that, unless interested parties presented information that sellers are misrepresenting the thermal performance of these products to consumers, the Commission would not propose extending the Rule to cover them. 64 FR at 48027.

Although DOE and NAIMA maintained that the use of flexible duct insulation has become much more common in residential applications than it was when the Rule originally was promulgated, no commenters indicated that sellers are misrepresenting the thermal performance of pipe or duct insulation products to consumers. In addition, although DOE raised doubt concerning the basis for the labeled R-value of these products, NAIMA indicated that its members base their thermal performance claims for all residential rigid and flexible duct products on ASTM test methods referenced in the Commission's Rule. The Commission recognizes that including these products under the Rule may provide some benefit to consumers. Absent evidence of widespread deception, however, it is difficult to conclude that such benefits would be significant enough to support a change to the Rule. Accordingly, the Commission is not proposing amendments on this issue but seeks additional comment including any additional information on industry practice for testing and labeling these products and the costs new FTC testing and labeling requirements would impose in this area.

2. Non-residential Insulations

Background

In the ANPR, the Commission indicated that it did not plan to extend the Rule to cover sales to the commercial market. The Commission did, however, request information about whether sellers in this market are misrepresenting the thermal performance of insulation products or are engaging in other unfair or deceptive practices.

Comments

The Commission received ten comments regarding the extension of the R-value Rule to insulation products used in commercial buildings. PIMA,

International Paper ("Uniwood"), (11); ConsultMort, Inc. ("ConsultMORT"), (12); AFM Corporation ("AFM"), (13); Advanced Foil Systems, Inc. ("AFS"), (14); Carlton Fields for Cellucrete Corporation ("Cellucrete"), (15); Tenneco Building Products ("Tenneco"), (16); Therese K. Stovall for Oak Ridge National Laboratory ("ORNL-1"), (17); The Polyurethane Foam Alliance ("SPFA"), (18); The Reflective Insulation Manufacturers Association ("RIMA"), (19); Dan Reicher, Assistant Secretary for Energy Efficiency and Renewable Energy, for the United States Department of Energy ("DOE"), (20); Therese K. Stovall for Oak Ridge National Laboratory ("ORNL-2"), (21). The comments are on the public record and are available for public inspection in accordance with the Freedom of Information Act, 5 U.S.C. 552, and the Commission's Rules of Practice, 16 CFR 4.11, at the Consumer Response Center, Public Reference Section, Room 130, Federal Trade Commission, 600 Pennsylvania Avenue, NW, Washington, D.C. The comments are organized under the Labeling and Advertising of Home Insulation Rule ("The R-value Rule"), Matter No. R811001, under the category: "ANPR Comments, R-value Rule, 16 CFR Part 460."

[9] DOE (20), p. 2; DOE also recommended that the FTC consider the issue of competitive advantage of installations using duct wrap (which must show an R-value) vs. flex duct (with integral insulation that is not covered by the Rule).

[10] NAIMA (9), pp. 6–7, Appendices 8–10.

[11] *Id.* p. 7.

[12] Elastizell (10), p. 1.

* There is currently a task group on reflective duct insulation at ASTM C16.21 and this TG is working to establish test criteria for foil wrapped ducts (bubble packs etc..)

installed in closed cavities, such as walls. Sections 460.5(b), (c), and (d) of the Rule require that manufacturers of traditional reflective insulation products use specific test procedures to determine the R-values of their products, and that manufacturers and other sellers disclose R-values to consumers for specific applications. 64 FR at 48038–39. Section 460.5(c) of the Rule requires the use of ASTM E 408 for single sheet systems. For reflective systems with more than one sheet, section 460.5(b) requires ASTM C 236 and ASTM C 976.

A relatively new ASTM procedure (ASTM C 1371–97, "Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers") can be used to measure the emissivity (*i.e.*, its power to radiate heat) of single-sheet reflective insulations. The ANPR solicited comments on this and other tests for single-sheet products, and asked whether it should require industry members to measure the emissivity by only one procedure to ensure that emissivity measurements are accurate and reliable.

The Commission indicated that it planned to amend the Rule to require that R-values for traditional multi-sheet reflective insulations be tested according to ASTM C 236–89 (1993) or ASTM C 976–90 in a test panel constructed according to ASTM C 1224–93, and under the test conditions specified in ASTM C 1224–93, and that the R-values be calculated according to the formula specified in ASTM C 1224–93 from the results of those R-value tests. *Id.* at 48039.

Comments

Most of the comments supported the Commission's proposed changes. For determining single sheet emissivity, PIMA supported C 1371 as discussed by the Commission and suggested that the Rule incorporate ASTM C 835.[78] NAIMA stated that ASTM E 408, which is currently required by the Rule, provides accurate emissivity results, but recommended that the sample tested reveal the effect of aging on the product's emissivity. NAIMA indicated that it would not oppose adoption of alternative tests so long as they were as accurate as E 408. It maintained that the proposed tests are necessary because the results reflect the impact of aging, dusting, and corrosion.[79]

PIMA supported the Commission's proposal for determining the R-value of multi-sheet reflective insulations.[80] AFS pointed out that ASTM C 1363, "Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus" has replaced C 236, C 976, C 177, and C 518 mentioned currently in C 1224.[81] NAIMA further explained that ASTM C 1363 was developed to combine the requirements of ASTM C 236 and C 976 into a common test procedure. NAIMA indicated that any test apparatus meeting the existing C 236 and C 976 standards could meet the new standard. NAIMA also stated that ASTM C 1363 includes information from the applicable International Organization for Standardization ("ISO") standard so that conforming to ASTM C 1363 also conforms to the ISO Hot Box standard.[82]

Discussion

To reflect new procedures as discussed above, the Commission proposes to amend the Rule to reorganize sections 460.5(b), (c), and (d) to require in proposed section 460.5(b) that single sheet systems of aluminum foil (*i.e.*, reflective material) be tested with ASTM C 1371–98, "Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers" or E 408 (as currently required). ASTM C 1371 tests the emissivity of the foil. To get the R-value for a specific emissivity level, air space, and direction of heat flow, the amendment would direct industry members to use the tables in the most recent edition of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers' ("ASHRAE") Handbook, if the product is intended for applications that meet the conditions specified in the tables. Industry members would have to use the R-value for 50° F , with a temperature differential of 30° F.

In proposed section 460.5(c), the Commission proposes to state that aluminum foil systems with more than one sheet, and single sheet systems of aluminum foil (*i.e.*, reflective insulation) that are intended for applications that do not meet the conditions specified in the tables in the most recent edition of the ASHRAE Handbook, must be tested with ASTM C 1363–97, "Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus," in a test panel constructed according to ASTM C 1224–99, "Standard Specification for Reflective Insulation for Building Applications," and under the test conditions specified in ASTM C 1224–99. To get the R-value from the results of those tests, the amendment would require the use of the formula specified in ASTM C 1224–99. The tests must be done at a mean temperature of 75° F , with a temperature differential of 30° F.

Finally, the Commission plans to amend section 460.5(d)(1) to insert a reference to ASTM C 1363–97, "Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box," in place of ASTM C 236–89 (Reapproved 1993), "Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box," and ASTM C 976–90, "Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Calibrated Hot Box."

The Commission believes that these changes are appropriate because they account for recent improvements in the applicable test procedures. The Commission solicits comments on this proposal, particularly on any issues related to the accuracy, reliability, and consistency of the procedures for measuring emissivity; the costs of conducting the procedures; and whether the Commission should require that emissivity be measured by only one procedure to ensure that measurements of emissivity are accurate and reliable.

b. Radiant Barrier Products

Background

Radiant barrier reflective insulations are installed in attics facing the attic's open airspace. Although they are covered by the Rule, R-value claims are not appropriate for them because no generally accepted test procedure exists to determine the R-value of a radiant barrier reflective insulation installed in an open attic. Sellers who make energy-saving claims for radiant barrier insulations must nevertheless have a reasonable basis for the claims under section 460.19(a) of the Rule.

The ANPR noted that ASTM had issued a new standard—ASTM C 1340–96—for evaluating the thermal performance of low-emittance foils used in residential attics to reduce radiative transport across the attic air space. The Commission solicited comments concerning the specific type of performance for radiant barrier products that the standard measures; how the standard may be used to substantiate energy-saving or other performance claims for radiant barrier insulations; the types of installations of radiant

[78] PIMA (3), p. 7. "Standard Test Method for Total Hemispherical Emittance of Surfaces From 20 to 1000 Degrees C" (ATM C 835–95).

[79] NAIMA (9), p. 21.

[80] PIMA (3), p. 7.

[81] AFS (14), p. 1.

[82] NAIMA (9), pp. 21–22.

* C 1371 Replaced E408 about 2 years ago and E408 is no longer in use.

barrier insulations for which the standard may be used; the accuracy of the determinations made under the standard; and whether the Commission should require that energy-saving or other performance claims for radiant barrier insulations be based on the standard. 64 FR at 48039–40.

Comments

NAIMA asserted that the elusive quality of radiant barrier insulation's varying characteristics makes assigning an R-value rating nearly impossible. NAIMA stated that tests conducted at DOE and other labs demonstrate an ability to predict certain energy savings only when no variables interfere with the product's performance. Unfortunately, according to NAIMA, the DOE study shows that the product is vulnerable to numerous factors that can diminish its effectiveness. NAIMA contended that no single protocol or method currently exists that is capable of consistently rating the thermal performance of radiant barrier insulations. It maintained that, until such a test becomes available, the Commission should prohibit thermal performance claims for these products. NAIMA argued that such a restriction may provide an incentive for radiant barrier producers to develop the standard needed for supporting thermal performance claims.[83] *

RIMA opposed adoption of ASTM C 1340–96. RIMA contended that, while the standard is a useful tool and a good starting point for calculating savings from radiant barriers, it does not account for the presence of air conditioning ducts in attics, which can significantly affect heat gain and overall savings. Without being specific, RIMA suggested that the Commission consider other programs that are more comprehensive in energy-saving determinations.[84]

Discussion

The Commission continues to find that R-value claims are not appropriate for radiant barrier reflective insulations because there is no generally accepted test procedure to determine the R-value of such insulations installed in an open attic or elsewhere. Sellers who make energy-saving claims for radiant barrier insulations, however, must have a reasonable basis for the claims under Section 460.19(a) of the Rule. It should be noted that ASTM C 1340–96 enables a determination of the heat flux through an attic containing a radiant barrier. The results do not provide an R-value rating, but do yield a performance value that may aid industry members in developing support for their energy-saving claims (and related performance claims) made about radiant barrier insulations. The Commission does not propose any amendments to the Rule on this subject.

6. Additional Laboratory Procedures for Testing Loose-Fill Insulations

The Rule currently specifies only the basic R-value test procedures and test specimen preparation procedures for certain products that are necessary to account for factors that can significantly affect R-value results (*e.g.*, aging, settling). The ANPR asked whether there is a need to specify in more detail the laboratory procedures that should be followed in preparing test specimens and conducting R-value test procedures. The Commission explained that ASTM C 687 ("Standard Practice for Determination of Thermal Resistance of Loose-Fill Building Insulation") is a detailed standard practice, rather than a test procedure, and that it specifies procedures to be followed in testing a variety of loose-fill insulations for use in non-enclosed applications. The Commission considered it unnecessary to require adherence to more detailed standard practice or standard guide specifications, such as ASTM C 687. The Commission did not receive any comments in response to the ANPR supporting a requirement for detailed laboratory operating procedures for these insulations. Accordingly, the Commission is not proposing any amendments to the Rule.

E. Other Disclosure Issues

1. Disclosures on Labels and Fact Sheets

a. "What You Should Know About R-values"

The ANPR sought comment on whether the Rule should require disclosure in fact sheets of additional or different information for consumers to consider when purchasing insulation. Several commenters suggested additional disclosures on fact sheets, including noting that R-values may decrease when insulation material is installed between structural members (*e.g.*, wall studs, floor joists, etc.),[85] information regarding the impact of long-term aging on material,[86] and disclosures regarding moisture content.[87] Both PIMA and NAIMA opposed changes to the Rule in this regard. PIMA stated that the inclusion of additional factors may create some confusion with consumers. NAIMA indicated that the current requirements are understandable to most consumers and that manufacturers are free to supplement required disclosures with additional fact sheets and materials.

The Commission understands that there are additional disclosures that could be added to fact sheets; however, we are not convinced that the additional burdens imposed by new disclosure requirements would be outweighed by increased consumer benefits. 64 FR at 48041. Thus, the Commission is not proposing any amendments to the Rule regarding this issue.

b. Disclosures for Batt, Blanket, and Boardstock Insulations

Background

Subsections 460.12(b)(1) and (b)(4) of the Rule require manufacturers to label all packages of "mineral fiber batts and blankets" and all board stock insulations with a chart showing the R-value, length, width, thickness, and square feet of insulation in the package, and section 460.13(c)(1) requires that they include the chart on the manufacturer fact sheets. As indicated in the ANPR, NAIMA recommended amending section 460.12(b)(1) to apply to *all* batt and blanket insulation products by deleting the reference to "mineral fiber." NAIMA asserted that batts and blankets made of other materials, such as cotton, other cellulosic materials, and plastic fiber, have been introduced into the marketplace and that the Rule should specify labeling requirements for these new batt and blanket products. 64 FR at 48041.

Comments

In its ANPR comments, NAIMA reiterated its view indicating, among other things, that there is no valid argument to exempt any particular type of batt or blanket.[88] PIMA also supported deleting the phrase "mineral fiber" to ensure that all types of batt/blanket insulation are consistently covered.[89]

Discussion

The Commission agrees that all types of batt and blanket insulations should be labeled with the same basic R-value and coverage area information, and that manufacturers' fact sheets for these insulation products should include these disclosures. Section 460.12(b) refers to "mineral fiber" batts and blankets because, when the Rule was

[83] NAIMA (9), p. 22.
[84] RIMA (19), p. 1.
[85] Troutman/T-Foil, (1).
[86] FPSA (8), pp. 7–8.
[87] DOE (20), p.1.
[88] NAIMA (9), p. 23.
[89] PIMA (3), p. 7.

* I'm not aware of anyone reporting R values on radiant barriers Unless it is someone "new" who would not also be aware [illegible] I don't think [illegible]

(4) For self-supported spray-applied cellulose, the tests must be done at the settled density determined pursuant to ASTM C 1149–97, "Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation."

(5) For loose-fill insulations, the initial installed thickness for the product must be determined pursuant to ASTM C 1374–97, "Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation," for R-values of 11, 13, 19, 22, 24, 32, 40 and any other R-values provided on the product's label pursuant to § 460.12.

(b) Single sheet systems of aluminum foil must be tested with ASTM E 408–71 (Reapproved 1996), "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques," or ASTM C 1371–98, "Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers." This tests the emissivity of the foil—its power to radiate heat. To get the R-value for a specific emissivity level, air space, and direction of heat flow, use the tables in the most recent edition of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers' (ASHRAE) Fundamentals Handbook, if the product is intended for applications that meet the conditions specified in the tables. You must use the R-value shown for 50 degrees Fahrenheit, with a temperature differential of 30 degrees Fahrenheit.

(c) Aluminum foil systems with more than one sheet, and single sheet systems of aluminum foil that are intended for applications that do not meet the conditions specified in the tables in the most recent edition of the ASHRAE Fundamentals Handbook, must be tested with ASTM C 1363–97, "Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus," in a test panel constructed according to ASTM C 1224–99, "Standard Specification for Reflective Insulation for Building Applications," and under the test conditions specified in ASTM C 1224–99. To get the R-value from the results of those tests, use the formula specified in ASTM C 1224–99.

(d) For insulation materials with foil facings, you must test the R-value of the material alone (excluding any air spaces) under the methods listed in paragraph (a) of this section. You can also determine the R-value of the material in conjunction with an air space. You can use one of two methods to do this:

(1) You can test the system, with its air space, under ASTM C 1363–97, "Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus," which is incorporated by reference in paragraph (a) of this section. If you do this, you must follow the rules in paragraph (a) of this section on temperature, aging and settled density.

(2) You can add up the tested R-value of the material and the R-value of the air space. To get the R-value for the air space, you must follow the rules in paragraph (b) of this section.

(e) The standards listed above are incorporated by reference into this section. These standards were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be inspected at the Federal Trade Commission, Consumer Response Center, Room 130, 600 Pennsylvania Avenue, NW, Washington, DC 20580, or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC. Copies of materials and standards incorporated by reference may be obtained from the issuing organizations listed in this section.

(1) The American Society of Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(i) ASTM C 177–97 (Reapproved 1993), "Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus."

(ii) ASTM C 236–89 (Reapproved 1993), "Standard Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot Box."

(iii) ASTM C 518–95, "Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus."

(iv) ASTM C 578–95, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation."

(v) ASTM C 591–94, "Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation."

(vi) ASTM C 739–97, "Standard Specification for Cellulosic Fiber (Wood-Base) Loose-Fill Thermal Insulation."

(vii) ASTM C 1029–96, "Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation."

(viii) ASTM C 1045–97, "Standard Practice for Calculating Thermal Transmission Properties from Steady-State Heat Flux Measurements."

(ix) ASTM C 1114–98, "Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Thin-Heater Apparatus."

(x) ASTM C 1149–97, "Standard Specification for Self-Supported Spray Applied Cellulosic Thermal Insulation."

(xi) ASTM C 1224–99, "Standard Specification for Reflective Insulation for Building Applications."

(xii) ASTM C 1363–97, "Standard Test Method for the Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus."

(xiii) ASTM C 1371–98, "Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers."

(xiv) ASTM C 1374–97, "Determination of Installed Thickness of Pneumatically Applied Loose-Fill Building Insulation."

(xv) ASTM E 408–71 (Reapproved 1996), "Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques."

(2) The American Society of Heating, Refrigerating, and Air-Conditioning Engineers' (ASHRAE), 1791 Tullie Circle, N.E., Atlanta, Georgia 30329. ASHRAE Fundamentals Handbook (2001 edition).

(3) U.S. General Services Administration (GSA),1800 F Street, NW Washington, DC 20405. GSA Specification HH-I–530A.

4. Revise § 460.8 to read as follows:

§ 460.8 R-value tolerances.

If you are a manufacturer of home insulation, the mean R-value of sampled specimens of a production lot of insulation you sell must meet or exceed the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation. A production lot for the purposes of this section means a definite quantity of the product manufactured under uniform conditions of production. No individual specimen of the insulation you sell can have an R-value more than 10% below the R-value shown in a label, fact sheet, ad, or other promotional material for that insulation. If you are not a manufacturer, you can rely on the R-value data given to you by the manufacturer, unless you know or should know that the data is false or not based on the proper tests.

5. Revise § 460.12 to read as follows:

§ 460.12 Labels.

If you are a manufacturer, you must label all packages of your insulation. The labels must contain:

(a) The type of insulation.

(b) A chart showing these items:

(1) For batts and blankets of any type: the R-value, length, width, thickness, and square feet of insulation in the package.

* E408 no longer in use - C371 on test methodology